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IN THE

Supreme Court of the United States

No. 79-855

SIDNEY A. DIAMOND, COMMISSIONER OF PATENTS AND TRADEMARKS,
Petitioner
v.
JOHN J. BRADLEY and BENJAMIN S. FRANKLIN
and

No. 79-1112

SIDNEY A. DIAMOND, COMMISSIONER OF PATENTS AND TRADEMARKS,
Petitioner
v.
JAMES R. DIEHR, II, AND THEODORE A. LUTTON

BRIEF AMICUS CURIAE OF NATIONAL SEMICONDUCTOR CORPORATION

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INTEREST OF THE AMICUS CURIAE

The Court of Customs and Patent Appeals (CCPA) appears determined to eviscerate this Court's holding in *Parker* v. *Flook*, 437 U.S. 584 (1978) in order to begin the process of patenting computer software. Such a campaign is of grave concern to segments of the electronics industry. The electronic storage and manipula-

tion of data is probably the most rapidly expanding industry in the world, with the United States presently the dominant manufacturer.

National Semiconductor Corporation is one of the world's largest manufacturers of integrated circuits.

Historically, there was a separation between the manufacturers of electronic components, such as National Semiconductor Corporation, and the manufacturers of electronic equipment, such as AT&T and IBM. As the components have become more complex and compact, the lines of demarcation between the designers of integrated circuits and the designers of electronic systems have become blurred. The more data which can be stored and manipulated on a single integrated circuit, the smaller, faster, lighter and cheaper become the systems which use the circuits, whether the applications be in computers, missiles, telecommunications or television. Manufacturers of integrated circuits confidently predict that by 1985, they will be able to manufacture for less than $1,000 a single microprocessor integrated circuit with the computing power of a mainframe computer which last year sold for over $1,000,000. Work is well underway on integrated circuits capable of storing a million bits of data on a single silicon chip.

Predictably, the equipment manufacturers have applied enormous pressure through the patent bar on the Patent Office, the courts and the Congress to get patent protection for software. Even though they have prospered mightily without software patent protection, they argue that they will be unwilling or unable to commit funds for future research and development unless granted patent monopolies which assure recapture of those funds. The record does not support this threat. It is the high rate of technological change and the intense competition within the industry which have produced electronic solutions so efficient that users are unable to resist changing

from older non-electronic systems. Companies like National Semiconductor Corporation have literally forced their way into new businesses, such as hand-held calculators, with products so powerful and cheap, so efficient and convenient, that older systems have had to give way. The essence of the latest, advanced, powerful calculators has been the conversion to hardware of what was previously deemed software. To permit the patenting of software would be to stifle that process of technological change and competition because it would radically alter the standard of invention.

Few laymen, lawyers or legislators understand the technical jargon of electronics. The result has been that few understand that software is but a set of instructions used to control a machine. It is true that software is written in languages not readable by any except those trained in the field. It is true software often involves prodigious effort. However opaque the language to laymen, however prodigious the effort to produce, software remains no more an invention than Shephard's Citations, which to non-lawyers are equally opaque and require prodigious efforts to create.

STATEMENT OF THE CASE

The "Question Presented" in each of these cases asks whether the claims at issue define "patentable subject matter under 35 U.S.C. 101". To resolve that question, the Court must determine not only whether the claimed subject matter is a "process" or "machine" but also whether it is "new" within the meaning of the statute.[1]

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[1] 35 U.S.C. § 101 provides that:

> Whoever invents or discovers any *new . . . process, machine,* manufacture, or composition of matter . . . may obtain a patent therefor . . . .

"In construing a statute we are obliged to give effect, if possible, to every word Congress used. United States v. Menasche, 348 U.S. 528, 538-539 . . . ." *Reiter* v. *Sonotone Corp.*, 442 U.S. 330, 60 L.Ed.2d 931, 937 (1979).

The claim in each case is for a combination of elements in which the only novel feature is a computer program implementing an algorithm.[2]

Parker v. *Flook*, 437 U.S. 584 (1978), explains how such combination claims are to be analyzed for the presence of subject matter "eligible for patent protection" under § 101. 437 U.S. at 588. Pursuant to that analysis, "the algorithm . . . is treated as though it were a familiar part of the prior art" because it "reveals a relationship that has always existed" (437 U.S. at 591-2, 593, n. 15). "[O]nce that algorithm is assumed to be within the prior art, the application, considered as a whole" is then examined to determine whether it "contains [a] patentable invention" (437 U.S. at 594).

In each of these cases, the PTO Examiner and the Board of Appeals applied the *Flook* analysis to hold that the claims at issue do not define a patentable invention.

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[2] In No. 79-855, the claim is for a "computer system" including a "data structure for storing coded signals" comprising four elements generically recited as "means" for storing a series of basic instructions as a microprogram. The Examiner found that the only novel aspect of the claimed invention resided in an algorithm designed to control the computer to solve a particular problem (Pet. App. D 33a-39a). The PTO Board of Appeals agreed that "save for the microprogramming", the computer system and data structure were old in the art (Pet. App. C 26a-27a). The CCPA left standing the Board's determination that the apparatus was old in the art and that only the microprogramming was new (Pet. App. A 13a).

In No. 79-1112, the claim is for a combination of steps including a mathematical algorithm, said to comprise a "method" for curing rubber. The CCPA did not reverse the PTO Board of Appeals' factual finding that everything in the claim except the use of the computer to calculate the cure time was old in the art (Pet. App. A 13a). See also Pet., p. 8, n. 5.

In each case, the CCPA tacitly acknowledged that if the *Flook* analysis is correct, the Board must be affirmed. Accordingly, the CCPA, in order to reverse the Board in each case, had to reject *Flook*, which it did, on the ground that "[w]hile the Supreme Court in that case may have found that analysis . . . convenient . . . we do not believe the Court meant to establish that analysis as a general test in determining compliance with § 101". *Application of Diehr*, 602 F.2d 982, 987, n. 6 (1979).

ARGUMENT

I. THE *FLOOK* ANALYSIS IS CORRECT

The *Flook* analysis for determining whether combination claims reciting an algorithm are patentable subject matter under § 101 is correct.

A. 35 U.S.C. § 101

Section 101 permits patents only for "new" subject matter which constitutes a "process, machine, manufacture, or composition of matter". The preclusion of patents for subject matter that is not "new" has "always existed in the statutory scheme" (*Graham* v. *John Deere Co.*, 383 U.S. 1, 12 (1966)).[3] It insures against breach of the "limits of the constitutional grant" which prohibit "Congress [from] authoriz[ing] the issuance of patents whose effects are to remove existent knowledge from the public domain" (*Ibid.*, at 6).

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[3] The Court explained that:

> The precursors of these sections [35 U.S.C. §§ 101 and 102] are to be found in the Act of February 21, 1793, c. 11, 1 Stat. 318; Act of July 4, 1836, c. 357, 5 Stat. 117; Act of July 8, 1870, c. 230, 16 Stat. 198; Rev. Stat. § 4886 (1874).

Graham, supra, 383 U.S. at 14, n. 5.

The predecessor statute, R.S. 4886, set forth the provisions of § 101 and most of the provisions of § 102 in a single statute.[4]

As the Congressional committee reports state "Section 102 . . . includes, in effect, an amplification and definition of 'new' in section 101" which preserves the "language" of the old statute except for the substitution of "process" for "art".[5]

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[4] R.S. 4886, subparagraphed for ease of consideration, states as follows:

> Any person who has invented or discovered any *new* and useful art, machine, manufacture, or composition of matter, or any *new* and useful improvements thereof, . . .
>
> not known or used by others in this country, before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, or more than one year prior to his application, and not in public use or on sale in this country for more than one year prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceeding had, obtain a patent therefor. (Emphasis added.)

The Reviser's Note to § 101 states that:

> The corresponding section of existing statute [R.S. 4886] is split into two sections. . . .
>
> Section 101 follows the wording of the existing statute as to the subject matter for patents, except that . . . the word "art" has been replaced by "process", which is defined in section 100 . . . .

[5] S. Rep. No. 1979, 82d Cong., 2d Sess. 5, 6 (1952); House Report No. 1923, 82d Cong., 2d Sess. 6, 7 (1952).

Consistent with this legislative history, the CCPA has recognized that the word "new" in § 101 is to be given effect. In *Application of Bergstrom*, 427 F.2d 1394 (1970), the CCPA considered a rejection of the claims at issue "under § 101"

The imperative of § 101 that only "new" subject matter can be patented fully implements the prohibition against patents for "the basic tools of scientific and technical work" (*Gottschalk* v. *Benson*, 409 U.S. 63, 67 (1972)), without judicial compromise of the statute's plain and unambiguous language. This indeed is the essence of *Flook's* teaching.

Flook states that:

> The rule that the discovery of a law of nature cannot be patented rests, not on the notion that natural phenomena are not processes, *but rather on the more fundamental understanding that they are not the kind of "discoveries" that the statute was enacted to protect.* . . . (Footnote omitted; emphasis added.)

437 U.S. at 593.

The accompanying footnote 15 explains that this "fundamental understanding" is bottomed on the fact that natural phenomena, albeit processes, are *not "new"*, and for *that* reason "are not the kind of 'discoveries' " that are patentable. As the footnote states:

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on the ground that the claimed compounds "are not 'new' within the connotation of the patent statute". 427 F.2d at 1397. The court's ruling was "that the subject matter claimed by appellants is 'new' ". 427 F.2d at 1402. In reaching that conclusion, the court held:

> [T]he criteria for determining whether given subject matter is "new" within the meaning of § 101 are no different than the criteria for determining whether that subject matter possesses the "novelty" expressed in the title of § 102. The word "new" in § 101 is defined and is to be construed in accordance with the provisions of § 102. Thus, that which possesses statutory novelty under the provisions of § 102 is also new within the intendment of § 101. . . . (Footnotes omitted.)

427 F.2d at 1401.

> The underlying notion is that a scientific principle . . . *reveals a relationship that has always existed.*
>
> "An example of such a discovery [of a scientific principle] was Newton's formulation of the law of universal gravitation. . . . But this relationship always existed—even before Newton announced his celebrated law. Such 'mere' recognition of a theretofore *existing* phenomenon or relationship carries with it no rights to exclude others from its enjoyment. . . . *Patentable subject matter must be new* (novel); not merely heretofore unknown. *There is a very compelling reason for this rule. The reason is founded upon the proposition* that in granting patent rights, the public must not be deprived *of any rights that it theretofore freely enjoyed.*" P. Rosenberg, Patent Law Fundamentals, § 4, at 13 (1975) (Emphasis added).

Flook, supra, 437 U.S. 593, n. 15.

The observations in *Flook* that subject matter which is a " 'process' in the ordinary sense of the word" may nevertheless be unpatentable because a "purely literal reading of § 101" (437 U.S. at 588-9) is foreclosed [6]

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[6] The *Flook* opinion states:

> The plain language of § 101 does not answer the question. It is true, as respondent argues, that his method is a "process" in the ordinary sense of the word. But that was also true of the algorithm, which described a method for converting binary-coded decimal numerals into pure binary numerals, that was involved in Gottschalk v. Benson. The holding that the discovery of that method could not be patented as a "process" forecloses a purely literal reading of § 101. . . . (Footnote omitted.)

437 U.S. at 588-9.

The claim in *Benson* was unpatentable because it "would wholly pre-empt the [old] mathematical formula". 409 U.S. at 72.

accord with early decisions which recognize that, taken literally, the term "process" encompasses both patentable and unpatentable subject matter. As the opinion explains, however, the claim in *Flook* was unpatentable under § 101 for the fundamental reason that the subject matter was not "new".[7]

B. Apposite Decisions

At least two lines of precedent converge to require that each of the elements set forth in combination claims, however artfully drafted to refer to a "process", "machine" or "composition of matter", must be examined to detect any compromise of the public's unfettered right to everything which is old.

A first series of cases culminating in *Flook* and *Benson* holds that laws of nature, ideas, etc., are not patentable

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[7] See, *e.g.*, *Corning* v. *Burden*, 56 U.S. (15 How.) 252 (1853), which points out that "process" has two distinct meanings, to wit:

(1) a "practicable method or means of producing a beneficial result or effect" (*id.* at 268) where "the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another" (*id.* at 267); "[i]t is when the term process is used to represent the means or method of producing a result that it is patentable" (*id.* at 263);

(2) "in a more vague sense, in which it cannot be the subject of a patent . . . subjectively or passively as applied to the material operated on" (*id.* at 268)—*i.e.*, as a principle or abstract effect.

It was thus well settled under predecessors of § 101 that only the first category of "process" was patentable subject matter. Since the substitution of the word "process" for "art" in § 101 of the 1952 Act did not change the law, § 101 cannot be read literally to encompass both meanings of "process" above, but must be read to mean the first one, as *Corning* and its progeny hold.

and cannot impart patentability to an otherwise unpatentable combination of elements because they are not "new".

A second body of precedent holds that if an invention entails the improvement of only one element of an old combination, the improved element must be *separately* claimed and independently evaluated for compliance with the patent statutes, including § 101.

1. *Cases Concerning "Ideas"*

The two seminal principles of *Flook* and *Benson* and the line of decisions on which those opinions are bottomed are summarized in *Funk Bros. Seed Co.* v. *Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948).

First is the truism that:

> He who discovers a hitherto unknown phenomenon of nature has no claim to a monopoly of it which the law recognizes. If there is to be an invention from such a discovery, it must come from the application of the law of nature to a new and useful end.

Second, a combination claim which purports to define "the application of the law . . . to a new and useful end" is not patentable if it is necessary to ["borrow] invention [*i.e.*, that which is 'new' and 'unobvious'] from the discovery of the natural principle itself." *Ibid.*, at 130, 132.[8]

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[8] The entirety of the relevant passage from *Funk Bros.* states:

> But once nature's secret of the non-inhibitive quality of certain strains of the species of Rhizobium was discovered, the state of the art made the production of a mixed inoculant a simple step. Even though it may have been the product of skill, it certainly was not the product of invention. There is no way in which we could call it

Flook follows precisely the teaching of *Funk Bros.* and its antecedents. It refuses to impart patentability to an otherwise old process by "invention" "borrow[ed]" from a mathematical algorithm which was not "new". Instead, it correctly deemed the formula "to be within the prior art," and on that basis, concluded that "it is absolutely clear that respondent's application contains no claim of patentable invention" (437 U.S. at 594)—because all of the elements set forth in the claim, singly and in combination, were old.[9] See 437 U.S. at 594.

The *same* application of § 101 is explicated in *Anderson's-Black Rock, Inc.* v. *Pavement Salvage Co.*, 396 U.S. 57, 62 (1969). The claim at issue was for a paving machine made up of a combination of old elements in-

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> such unless we borrowed invention from the discovery of the natural principle itself. . . .

333 U.S. at 132.

Congress was specifically importuned, without success, to adopt language in the 1952 Act which would overrule *Funk Bros.*

> so that it be made clear . . . and . . . specifically understood that where a discovery has been made which involves a natural principle and is useful and practically applicable, *but such application . . . does not in itself call for inventive ingenuity*, that it be then likewise recognized that an invention [which is patentable] has been made.

Testimony of I. J. Fellner, *Patent Law Codification and Revision, Hearings Before the Committee on the Judiciary, U.S. House of Representatives on H.R. 3760*, 82d Cong., 1st Sess. 116, 118 (June 13-15, 1951).

[9] An analysis which, as the Court's own n. 15 quoted *supra* makes clear, renders wholly immaterial the issue of whether the claimed method was a " 'process' in the ordinary sense of the word" (437 U.S. at 588).

cluding a radiant heat burner. The Court did not tarry over the fact that the claimed subject matter was manifestly a "machine". Instead, the Court went straight to the jugular to invalidate the patent. After quoting § *101* in its entirety, the Court held:

> *Absent here is the element "new"*. For as we have said, the combination patent added nothing to the inherent characteristics or function of the radiant-heat burner. (Emphasis added.)

396 U.S. at 62, n. 4.

2. *Combination Claims*

The issue in every case involving combination claims is whether the invention "produce[s] a 'new and different function,' Lincoln Co. v. Stewart-Warner Corp., 303 U.S. 545, 549, 82 L.Ed. 1008, 1010, 58 S. Ct. 662, within the test of validity of combination patents." *Anderson's-Black Rock, supra*, 396 U.S. at 60.

That "test of validity" makes it clear that a combination claim *must* be analyzed—as this Court analyzed the claim before it in *Flook*—to determine which elements, *if any*, are "new" and which are old. If the only novelty is in an improvement of one element in an old combination, that improved element must be *separately* claimed so that it may be precisely determined whether the only "invention" constitutes patentable *subject matter* (§ 101), and, *if so*, whether it is of sufficient importance (see 35 U.S.C. § 103) to warrant the grant of a lengthy private monopoly. As this Court put it in *Lincoln Engineering Co.* v. *Stewart-Warner Corp.*, 303 U.S. 545 (1938):

> As we said of Gullborg in the Rogers Case, having hit upon this improvement he did not patent it as such but attempted to claim it in combination with other old elements which performed no new function in his claimed combination. The patent is therefore void as claiming more than the applicant invented.

> . . . [T]he improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination.
>
> * * * *
>
> We conclude that Butler's effort, *by the use of a combination claim, to extend the monopoly of his invention* of an improved form of chuck or coupler *to old parts or elements having no new function when operated in connection with the coupler renders the claim void.* (Emphasis added.)

303 U.S. at 549-50, 552.

Lincoln Engineering cites twenty-four cases (see 303 U.S. at 550, n. 6) which support this rule—included are three earlier decisions of this Court. The same rule has been applied by post-1952 cases [10] and is currently enforced by the PTO.[11]

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[10] See, *e.g., Avery Products Corp.* v. *Morgan Adhesives Co.*, 496 F.2d 254 (6 Cir. 1974); *Pierce* v. *Ben-Ko-Matic*, 310 F.2d 475 (9 Cir. 1962); *Rohr Aircraft Corp.* v. *Rubber Teck, Inc.*, 266 F.2d 613 (9 Cir. 1959); *Bauer Patent Corp.* v. *Westinghouse Electric Corp.*, 193 F.Supp. 868 (D.N.C. 1961).

[11] The current Manual of Patent Examining Procedure states that:

> A rejection on the ground of old combination should be made whenever proper. . . . The fact that an applicant has improved one element of a combination which may be *per se* patentable does not entitle him to a claim to the improved element in combination with old elements where the elements perform no new function in the claimed combination. In re Hall, 41 CCPA 759.
>
> * * * *
>
> See also Lincoln Engineering Co. v. Stewart-Warner Corp., 303 U.S. 545, 37 USPQ 1 (1938); In re McCabe, 48 CCPA 881, 129 USPQ 149 (1961) (discussion of claim 13); and particularly In re Bernhart, 57 CCPA 737, 163 USPQ 611 (1969). (§ 706.03(j))

C. The *Flook* Analysis and § 103

In *Flook*, the Court was careful to explain that its analysis of what is patentable *subject matter* under § 101 is "not at all inconsistent with the view," borrowed from § 103, "that a patent claim must be considered as a whole".[12] 437 U.S. at 594.

To the contrary, analysis to identify the old and new among the elements recited in combination claims as variously applied in *Funk Bros.*, *Lincoln Engineering* and *Flook* finds statutory mandate in § 103 itself.[13]

Under that statute, the "subject matter as a whole" is to be evaluated in light of the "differences," if any, between the claims and the prior art.

The Congressional committee reports explain that:

> An invention which has been made, and which is new [as required by § 101] in the sense that the same

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[12] Note 16, 437 U.S. at 594, of the *Flook* opinion states:

> Section 103, by its own terms, requires that a determination of obviousness be made by considering "the subject matter as a whole." 35 USC § 103 [35 USCS § 103]. Although this does not necessarily require that analysis of what is patentable *subject matter* under § 101 proceed on the same basis, we agree that it should. (Emphasis in original).

[13] 35 U.S.C. § 103 states:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the *subject matter as a whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. (Emphasis added.)

> thing has not been made before, may still not be patentable if the *difference* between the *new* thing and what was known before *is not considered sufficiently great to warrant a patent.* . . . (Emphasis added.)[14]

In accord with the legislative history and the language of the statute itself, this Court repeatedly has held that

> Under § 103, the . . . *differences between the prior art and the claims at issue are to be ascertained*; and the level of ordinary skill in the pertinent art resolved. Against *this background*, the obviousness or nonobviousness of the subject matter is determined. (Emphasis added).[15]

To identify the "*differences*", as required by § 103, claims *must* be analyzed, as in *Flook*, to determine which, if any, of the elements are "new" and which are old. Only then is it possible to determine whether such "diffences" as may exist constitute subject matter, viewed in the context of the claim as a whole, which is patentable under § 101 and not "obvious" under § 103.

D. The *Flook* Analysis and the "Art" of Claim Drafting

The principle which is common to both of these lines of judicial precedent and also to § 103 is that the language of patent claims generally and claims to combinations in particular must be critically examined to insure that the public's interest is not compromised. The Court made the same point more recently in the context of § 101's "useful" prerequisite to patentability:

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[14] S.Rep. No. 1979, 82d Cong., 2d Sess. 6 (1952); H.R.Rep. No. 1923, 82d Cong., 2d Sess. 7 (1952).

[15] *Graham* v. *John Deere Co.*, 383 U.S. 1, 17 (1966) cited and quoted in *Anderson's-Black Rock, Inc.* v. *Pavement Salvage Co.*, 396 U.S. 57, 62 (1969); *Dann* v. *Johnston*, 425 U.S. 219, 226 (1976); *Sakraida* v. *Ag Pro*, 425 U.S. 273, 280 (1976).

> [I]n light of the highly developed art of drafting patent claims so that they disclose as little useful information as possible—while broadening the scope of the claim as widely as possible—the argument based upon the virtue of disclosure must be warily evaluated. . . .

Brenner v. *Manson*, 383 U.S. 519, 534 (1966).

And, in *Flook*, this Court admonished that "[a] competent draftsman could attach some form of post-solution activity to almost any mathematical formula" (437 U.S. at 590), but to "make the determination of patentable subject matter depend simply on the draftsman's art . . . would ill serve the principles underlying the prohibition against patents for 'ideas' or phenomena of nature" (437 U.S. at 593).

In both *Flook* and *Lincoln Engineering*, analysis of the combination claims was necessary to identify which of the elements, if any, were new. By this means, the Court was able to determine whether, by artful drafting, unpatentable subject matter had been improperly monopolized. In *Lincoln Engineering*, the unpatentable subject matter was "the *old* parts of elements" of the claimed combination; in *Flook*, as in the two cases now before the Court, the unpatentable subject matter is an algorithm.

II. THE CLAIMS AT ISSUE

In these cases, as in *Flook*, analysis of the combination claims to identify the old and new elements, if any, makes it "absolutely clear that respondent's application[s] contain . . . no claim of patentable invention". 437 U.S. at 594.

In No. 79-1112, the claim is for an alleged improvement of only one of an old combination of process steps for the curing of rubber. The sole "difference" alleged to distinguish the respondent's invention, as a whole,

from the prior art is an unpatentable improvement in the method of calculating the cure time—a feature which "cannot support a patent" because there is no "other inventive concept in its application". *Flook, supra,* 437 U.S. at 594.

If the improved step in the old combination had been independently claimed, as controlling precedent from this Court requires, its unpatentability under § 101 because the subject matter is not "new" would have been facially apparent. See *Lincoln Engineering, supra; Anderson's-Black Rock, supra.*

In No. 79-855, the concurrent finding of the Patent Office tribunal which the CCPA left standing is that "save for the microprogramming" implemented by an algorithm, the claimed subject matter defined by the combination claims is old.[16] The claim, moreover, is in "Jepson" form, and the CCPA has agreed that the preamble of such a claim is to be disregarded in determining subject matter patentability under § 101.[17] All that is left of the claim is the recitation of four "means" which comprise the unpatentable microprogramming feature of the otherwise old apparatus.

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[16] See n. 2, *supra,* p. 4.

[17] In its March 27, 1980 opinion in *Application of Walter,* —— F.2d ——, the CCPA states:

> Appellant's claims, except claims 10-12, are in Jepson [*Ex parte Jepson,* 1917 C.D. 62, 243 O.G. 525] format. The claim preambles merely set forth the environment in which the improvement operates. They show only the context in which the mathematical exercise in the claims are to be used. In each claim, what is positively claimed, as distinguished from environment, is "[a mathematical exercise] of correlating" (claim 7), or "the improved method of cross-correlating" (claim 16). The same is true of claims 11-12, drafted in illusory apparatus format.

Slip op., p. 24.

The CCPA, in its decisions in these cases, does not contend otherwise. Instead, these opinions and the subsequent opinion in *Walter* simply refuse to follow *Flook*.

III. THE CCPA DECISIONS

As the petitions for certiorari make clear, the CCPA in these and subsequent cases has refused to apply the analysis of claims required under *Flook* and its antecedents by limiting *Flook* to its facts.[18] Its unsupported rationale has been the naked emotionalism that if the *Flook* approach "were to be adopted it would immeasurably debilitate the patent system" (*Walter*, *supra*, slip. op., p. 15). In short, the CCPA has attempted to read the imperative of "new" out of § 101, and insisted that the "subject matter as a whole" language, borrowed from § 103 but not recited in § 101, renders it "impermissible" to separate a "claim into old and new elements" as a prerequisite to determining whether the subject matter is patentable within the meaning of § 101. *Application of Diehr*, *supra*, 602 F.2d 988.

A. Disregard of § 101's "New" Imperative

The established rules of statutory construction prohibit judicial elision of *any* word or expression appearing in a duly enacted law. See *Weinberger* v. *Hynson, Westcott & Dunning*, 412 U.S. 609, 633 (1973), wherein "Hynson's argument . . . [which] would render clause (C) superfluous" was repudiated by this Court because it "offends the well-settled rule of statutory construction that all parts of a statute, if at all possible, are to be given effect." To the same effect, see *Reiter* v. *Sonotone Corp.*, 442 U.S. 330, 60 L.Ed.2d 931, 937 (1979) in

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[18] "[W]e do not believe the Court meant to establish that analysis as a general test in determining compliance with § 101. . . ." *Application of Diehr*, *supra*, 602 F.2d at 987, n. 6.

which the Court disapproved a "strained construction [which] would have us ignore the disjunctive 'or' and rob the term 'property' of its independent and ordinary significance; . . . [and] convert the noun 'business' into an adjective" because "[i]n construing a statute we are obliged to give effect, if possible, to every word Congress used."

Disdaining this fundamental rule and its own duty, in *In re Bergy*, 596 F.2d 952, 960, 962-964 (*cert. granted* No. 79-136, Oct. 29, 1979), the CCPA attacked *Flook* on the incredible premise that:

> *Prior art is irrelevant to the determination of statutory subject matter under § 101.* An invention can be statutory subject matter and be 100% old. . . . (Emphasis by the court).

This same unstable premise runs through the CCPA's ruling in No. 79-1112:

> Considerations of novelty . . . have no bearing on compliance with § 101. In re Bergy, 596 F.2d 952, 960-61, 962-63, 201 USPQ 352, 361, 362 (Cust. & Pat. App. 1979); Nickola v. Peterson, 580 F.2d 898, 906-907, 198 USPQ 385, 395-96 (6th Cir. 1978). . . .[19]

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[19] The *Nickola* opinion for the Sixth Circuit was written by the CCPA's Chief Judge Markey. Although the case was argued on November 30, 1977, it was not filed until June 23, 1978. Even *Nickola* does *not* hold, as *Bergy* implies, that "[c]onsiderations of novelty . . . have no bearing on compliance with § 101". Instead, *Nickola* acknowledges:

> That section [101] does employ the term "new," a synonym for "novel." . . . The words "new" and "useful," appearing twice, merely indicate the broad concept that a patent may not be obtained on that which is *old* [*e.g.*, an

> The novelty or otherwise of any element or even of all the elements or steps, or of the *combination has no bearing on whether the process is encompassed by § 101.*
>
> * * * *
>
> Novelty considerations have no bearing on whether claims define statutory subject matter under § 101. (Emphasis added.)

Application of Diehr, 602 F.2d at 987-89.

In its March 27, 1980 opinion in *Application of Walter*, *supra*, the CCPA, per Judge Rich, espouses the same heresy:

> Thus, if an inventor succeeds in applying scientific truth in a specific manner, resulting in the *improvement* of a process, machine, manufacture, or composition of matter, his invention is statutory, subject to the caveat that the underlying subject matter which has been improved *is itself within the bounds of § 101.* (Emphasis in the original.)

Slip. op., p. 16.

This approach is wrong. It ignores the fact that to be "within the bounds of § 101", an "improvement of a process, machine, manufacture, or composition of matter" must also be "new". If, as in *Flook*, the *only* "new" thing—the sole "difference" from the prior art; see § 103—is, in fact, a "scientific truth" which "has always

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> algorithm or other scientific principle which has always existed] or useless. . . .

580 F.2d at 906.

It is one thing to point out, as in *Nickola*, that the requirement for novelty is more specifically defined in § 102—but quite another to hold, as the CCPA does, that the word "new" in § 101 is to be ignored in the application of that statute; particularly so, when the subject matter at issue is, by definition, "old" obviating any relevance of § 102's more particularized novelty conditions.

existed", *Flook*, *supra*, 437 U.S. at 593, n. 15, the improvement is not patentable subject matter under § 101 because it is *old*.

B. The *Flook* Analysis and the Subject Matter as a "Whole"

Flook's argument that "analysis of what is patentable subject matter under § 101" should proceed on the basis of considering the "subject matter as a whole", see n. 12, *supra*, p. 14, is now used by the CCPA to launch yet another ill-conceived attack on the *Flook* analysis. Notwithstanding this Court's careful explanation of why its consideration of each of the elements of the claims in *Flook* was "not at all inconsistent with the view that a patent claim must be considered as a whole" (437 U.S. at 594), the CCPA in No. 79-1112 *reversed* stating:

> [T]he fact that certain limitations in a claim may be novel and certain others may be old is irrelevant. . . . The focus of the inquiry should be [on] the claim, *as a whole*. . . . Flook, 437 U.S. at 594, n. 16. . . . (Emphasis in original.)

Application of Diehr, *supra*, 602 F.2d at 987. See also *Application of Walter*, *supra*, slip op., pp. 17, 19.

It is sufficient to note that this insistence upon a monolithic treatment of patent claims clashes with settled law, including the plain language of § 103 in which, alone, the "subject matter as a whole" passage appears.

C. "Debilitation" of the Patent System

Flook is not a revolutionary or unusual decision. It is simply the latest in a long line of consistent precedents by which this Court has always held that subject matter which effectively preempts a scientific principle or law of nature is not patentable. This standard, like that for "unobviousness", i.e., invention, "has remained invariable in this Court" (*Graham*, *supra*, 383 U.S. at

19) without adverse effect on the sound operation of the patent system.[20]

To give color to its groundless debilitation charge, the CCPA in *In re Sherwood*, 613 F.2d 809, 204 USPQ 537, 545, n. 11 (1980) and in *Walter*, *supra*, invites the false inference that the *Flook* analysis (labelled in *Walter* as "the 'point of novelty' approach", slip op., p. 17) would "condemn . . . as nonstatutory" a claim sustained as valid in *Mackay Radio & Telegraph Co.* v. *Radio Corp. of America*, 306 U.S. 86 (1939).

Per contra, *Mackay Radio* made *no* holding of claim validity, but instead put "the question of patentability to one side as a preface to [its] analysis of the infringement issue." *Flook*, *supra*, 437 U.S. at 591. As the *Mackay* Court put it:

> [W]e do not stop to solve the problem whether it was more than the skill of the art to combine the teaching of Abraham with that of Lindenblad and others who had pointed out that the arrangement of the wires at an angle enhanced directional radio activity along their bisector. We assume, without deciding the point, that this advance was invention even though it was achieved by the logical application of a known scientific law to a familiar type of antenna. . . .

306 U.S. at 94.

Far from making the affirmative holding of validity erroneously inferred by the CCPA, *Mackay* was at pains

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[20] Even more to the point, the *Flook* analysis can be viewed as "immeasurably debilitat[ing]" or "potentially destructive" *only* insofar as its strict application would prevent the issuance of substantial numbers of patents. The question of what is "debilitating" or "destructive", so understood, is a *legislative* and not a judicial question, and should no more be addressed by the CCPA than by this Court.

to make known this Court's own grave doubts as to *that* issue and to emphasize that "*if* this *assumption* [of validity] is correct the invention was a narrow one . . . to be strictly construed . . . ." *Mackay, supra*, 306 U.S. at 94. In short, the opinion strongly suggests an analysis under § 101's antecedent statutes [21] that invalidates the *Mackay* claims.

Walter, supra, takes an equally misdirected tack in asserting that the *Flook* analysis would also condemn "the claim at issue in *Eibel Process Co.* [v. *Minnesota & Ontario Paper Co.*, 261 U.S. 45 (1923)]. The 'point of novelty' there was the application of the law of gravity to an otherwise well-known machine" (slip op., p. 16, n. 7). Careful reading of *Eibel*, however, shows that this Court did *not* view the "point of novelty" in the simplistic manner now espoused by the CCPA. Rather, the Court saw the *Eibel* invention as involving a coordination of several different factors to achieve a greatly improved machine. It noted, *inter alia*, that in attempting to improve the old machine, "there is no means, short of actual experiment, to enable one to anticipate results, and it is quite impossible to apportion to each factor its real influence" (261 U.S. at 62), and held that "what he [Eibel] saw and did was not obvious, and did involve discovery and invention" (261 U.S. at 68).

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[21] Such an analysis was specifically applied later to invalidate the claim at issue in *Funk Bros.*

CONCLUSION

Discharge of the Court's "duty to construe the statutes as they now read in light of [its] prior precedents" and to "proceed cautiously when . . . asked to extend patent rights" (*Flook, supra*, 437 U.S. at 596) requires reversal of the decisions of the CCPA.

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